SOFTWARE ENGINEERING & SPECIALIZED SCIENTIFIC SUPPORT

STATEMENT OF WORK: DESCRIPTION, SPECIFICATIONS, & WORK OBJECTIVES

OVERVIEW

The Environmental Protection Agency (EPA), Office of Research and Development (ORD), has a requirement for enterprise Software Engineering Specialized Scientific Support (hereafter abbreviated as SES^3) services for all of ORD's facilities.[1] EPA depends upon accurate information and reliable communications to execute its mandated functions and make informed, timely and correct decisions. EPA prefers the use of Web technology as a strategic methodology for communication with the public, our business partners, and our employees.

EPA is the largest program office in the EPA and is spread across thirteen geographic locations. EPA's mission is to:

- Perform research and development to identify, understand, and solve current and future environmental problems.
- Provide responsive technical support to meet EPA's mission.
- Integrate EPA's work with the work of EPA's scientific partners (other agencies, nations, private sector organizations, and academia).
- Provide leadership in addressing emerging environmental issues and in advancing the science and technology of risk assessment and risk management.

Role of EPA in the SES^3 Environment

Under the SES^3 Order, EPA and the contractor(s) will work in partnership to achieve the EPA's mission. The partnership will be strengthened by clearly defined roles and responsibilities, which will evolve over the life of the Order. EPA will be responsible for the requirements definition and strategic planning including the EPA target Enterprise Architecture. The SES^3 contractor shall be responsible for the technical planning, consistent with the direction of ORD, and the implementation of the technical plan.

STATEMENT OF WORK

The goal of this acquisition is to provide flexible, innovative, and cost effective solutions to meet the Information Management (IM) and Information Technology (IT) requirements of the EPA, ORD, and partner user communities including other Federal and state agencies. Prospective vendors are encouraged to offer creative and innovative solutions that meet overall strategic objectives.

This statement of work (SOW) does not provide specific details on the types of solutions to be offered, the comprehensiveness of any specific solutions, nor any specific performance levels or metrics that must be associated with any specific area. However, the government requires prospective vendors to offer comprehensive solutions that (1) are based on an understanding of the current EPA IT infrastructure and systems engineering environment, (2) provide the scope and breadth of systems engineering services that are responsive to the present and future needs of

[1] Refer to www.epa.gov/oam for locations.

the EPA, ORD, and partner user communities, and (3) ensure an appropriate level of security based on government regulations, agency requirements, and industry best practices.

Program Objective: EPA's objective is to establish a performance-based, multiple-source capability to acquire an all-encompassing range of software engineering and specialized scientific support services. It is anticipated that some task orders will be fixed-price while others will not. The anticipated ordering period and period of performance, for this Order will be seven (7) years (an initial one (1) year Order, with six one-year options). Central to this effort are the means to:

- Assist in developing and maintaining an applied software engineering program that is responsive to EPA strategies and business needs.
- Foster the rapid adoption of new technologies.
- Optimize internal and external communications and sharing of information.
- Provide flexibility for change as the nature of software engineering support services changes.
- Provide uninterrupted operations and minimize organizational disruption during transition.

BPA Objectives: EPA's objective for this vehicle is to provide a process for procuring needed SES[3] resources that can be leveraged throughout EPA for all types of systems life cycle[2] or business services projects. The wide range of SES[3] sought under this BPA will:

- Advance the use of current systems, improve upon and streamline them, modernize and craft new applications, and introduce new technologies as they emerge.
- Provide recommendations for and expert assistance in configuring and managing computer hardware, software and networks, in training clients, and in improving IT security, as it applies to application development and maintenance.
- Provide comprehensive research, studies and solutions for software engineering and deployment.
- Respond to requirements on short notice and provide rapid solutions following established and known processes.
- Provide support to respond to agency and Office of Management and Budget (OMB) data calls and reporting requirements.

Management Methods: Periodic structured status reports with defined metrics that track progress will be required throughout the life of this Order. Vendors shall provide the appropriate information to the right organizational level and provide a clear picture of the work being performed. The Vendors shall provide the resources appropriate to the defined body of work.

Management Controls: Problems with projects shall be promptly identified and brought to the attention of the Contracting Officer's Representative (COR) within twelve (12) hours of problem identification. Recommended solutions and approaches shall be presented to the COR within the following twenty-four (24) hours or as negotiated with the COR and relevant stakeholders.

Work Issuance: EPA will issue Task Orders (TO) to the BPA's pool of awarded Vendor(s) that will provide specific and detailed descriptions of work requirements. After the establishment of

[2] Refer to http://www.epa.gov/irmpoli8/ciopolicy/2100.5.pdf

a task order, work shall be issued as projects through an EPA provided commercial off-the-shelf (COTS) work request and project management system (WRPMS). The phrase "work request and project management system" refers to a standard solution. The WRPMS provides detailed work descriptions and routing approvals for requests associated with the applicable TO. The work requests will be routed to the COR for review and approved requests will then be routed to the Contractor. The Contractor shall provide a written estimate of the number of hours necessary to complete the work. Work shall not start until approved by the COR. When ad hoc plans or reports are required, a request will be submitted via the WRPMS. The date of delivery for such items will be specified at time of the request. EPA standard operating procedures may require a technical work plan be submitted to the COR within a specified timeframe that contains specific deliverables and due dates for submission to the COR.

Coordination and Collaboration with Relevant Stakeholders: EPA anticipates that, over time, the Contractor's knowledge of various organizational entities will grow through its associations with those entities. Based upon that knowledge, the Contractor shall keep the Project Officer (PO), COR, and other authorized EPA managers informed of status and technical issues, so that the designated or appropriate EPA organization may identify challenges and remediate issues, recognize risks and plan accordingly, and recognize opportunities to leverage strengths and corporate knowledge to advance solutions most advantageous to the customer. The Contractor shall inform the COR of apparent duplication of effort between tasks orders or projects and any obvious inconsistencies among work initiated by different Agency organizational entities. The Contractor shall provide this information in writing to the appropriate COR. In the interest of preserving the integrity of a unified architecture, the Contractor shall analyze common requirements between planned and existing projects and requirements that may cross programs, geographic, or organizational lines. The Contractor will notify the COR of any technical or managerial issues arising from any individual Task Orders (e.g. duplication, conflict, or violation of Agency standards). The Contractor(s) chosen for this multi-award Order shall establish a unified, consistent, collaborative process with other vendors to solve problems and recommend solutions. This process will be documented by the contractors and presented to the COR and all relevant stakeholders.

Technical Qualifications

The contractor shall have the ability to:

a. Apply new approaches, principles, methods, and techniques, as well as new tools and technologies compatible with the EPA environment, as appropriate.
b. Demonstrate advanced experience in systems analysis, evaluation, design, integration, and implementation of very complex applications which require a thorough knowledge of systems technologies and concepts.
c. Work within boundaries of and support standards-based enterprise architecture and understand enterprise technical architecture and information architecture.
d. Provide personnel with a demonstrated history of customer service and people skills for all customer-facing and end-user support staff positions.
e. Apply methodologies and techniques that result in reasonably accurate time and resource estimates for all projects and tasks.
f. Demonstrate aptitude at oral communications and meeting participation regarding specific technical issues such as infrastructure upgrades and their impact on EPA's

applications portfolio, product portfolio, and future releases and present formal plans, reports, and schedules of events for discussion to CORs as well as middle and upper level management.

g. Work collaboratively with users to help define their IT requirements; work and collaborate with subject matter experts across EPA and government for requirements translations, integrated solutions, and recommendations; visualize and understand IT solutions from the user perspectives.
h. Provide analysis of scientific automation and IT support needs. This includes technical support for scientific software development, testing, integration, installation, execution and maintenance of simulation models.
i. Keep skills current through self directed study, professional certifications and affiliations, industry and other public sector connections and contacts, reading, continuing education, user group participation, etc; conduct knowledge transfer sessions when requested by COR; maintain current knowledge of and information on both EPA-wide procurement vehicles and appropriate commercial vendors and products. Stay apprised of market trends and technology forecasts, and recommend best practices or solutions.
j. Create process improvement, project management, risk management, and project work plans; identify and document quality standards, processes, procedures, measurements, metrics, roles and responsibilities, and communications requirements.
k. Prepare investment review documents to support business cases, return on investment analysis, and investment prioritizations; create financial reports and track costs at a detailed level; produce standard reports as well as ad hoc reports; understand and adhere to generally accepted accounting principles.
l. Demonstrate understanding of technological capabilities, business requirements gathering/elicitation, traceability, and measurement.
m. Articulate and document business needs, objectives and outcomes; vet and clarify project scope and relevant stakeholders; prepare business case documentation, identify and document project assumptions, risks and constraints.
n. Integrate technologies and techniques into systems as appropriate; design and perform pilots, prototypes, and feasibility studies.
o. Recommend efficiencies and cost saving data practices, especially through COTS products; stay apprised of market trends and technology forecasts, as well as recommend best practices; research new and existing technologies and COTS software to determine efficient and effective delivery of information including technology areas such as information architecture, document management, metadata, and search and indexing functions.
p. Provide personnel that have expertise with the latest commercially available hardware, software, and programming languages.
q. Provide database and programming support with knowledge, skills, and abilities in determining and documenting all aspects of database design, operations, and maintenance including understanding enterprise requirements and identifying solutions.
r. Provide support for data visualization, GIS, application of quality control statistics, statistical methods (e.g., regression, cluster, and principal components).
s. Create, describe, and depict sophisticated and complex data processing flow diagrams; develop complex relational database schemas, data flow charts, and data dictionaries

t. Demonstrate advanced familiarity with the Clinger-Cohen Act of 1996, the Federal Information Security Management Act of 2002, and OMB Circulars A-11 and A-130.
u. Understand Section 508 standards and map the solutions to the requirements and Federal government and Agency standards as they relate to system design and development.
v. Perform evaluations and audits of scientific application programs.
w. Process and prepare data to perform geospatial overlays and GIS analysis.
x. Provide the technical support for developing new algorithm composition including the development of mathematical expressions.
y. Develop, update, and implement Quality Assurance Plans for work involving environmental data collection or use. QA Project Plans should be developed in accordance with EPA Requirements for Quality Assurance Project Plans (EPA/240/B-01/003, re-issued May 2006, http://epa.gov/quality/qapps.html).

SES[3] REQUIREMENTS

EPA has adopted an organic, evolving, best-of-breed approach (CMMI, PM-BOK, SLC, BA-BOK, SW-BOK, and ITIL)[3] to integrated project management in the areas of software, application, system, and scientific support. The vendor shall be able to employ and integrate project management techniques, approaches, knowledge areas, and best practices with the process areas of CMMI to meet the demands and challenges of its user community. It should be emphasized that the following is a listing of the types of SES[3] support required; however, it is not intended to be a complete listing. The vendor shall have an extensive depth of supporting capabilities in all of the categories identified below.

1. General SES[3] Competencies

- Financial reporting and cost tracking
- Organizational and management services
- Other IT related service

Description of SES[3] Competencies

Financial Reporting and Cost Tracking: In addition to standard Order reporting requirements, EPA requires a mechanism for providing costs and estimates at the project, application, and work request level with the capability to track costs to the type of work performed as it relates to software engineering. All costs associated with projects shall be reported in the monthly report, and as specified by the individual Task Order or overall SES[3] program.

Organizational and Management Services: The implementation of large scale systems across functional areas will require high level project management skills and tools for managing, tracking and reporting, and maintaining configuration management controls. Additional support is required for the special computer and human interfaces often required to provide equal access

[3] Capability Maturity Model Integration (CMMI), Project Management Body of Knowledge (PM-BOK), Systems Life Cycle (SLC), Business Analysis Body of Knowledge (BA-BOK), Software Body of Knowledge (SW-BOK), International Technology Infrastructure Library (ITIL)

to information resources for those who have disabilities. The scope of work for the *Organizational and Management Services* competency area includes all aspects of organizational and managerial support services including:

- Configuration management support, including planning and reviews
- Disaster recovery, continuity of operation and contingency planning
- Enterprise Architecture support
- License management
- Metrics support, including quality measures, functional point analysis and earned value analysis
- Organizational process definition
- Privacy planning and analysis support
- Process improvement initiatives
- Quality assurance management and performance engineering
- Relocation, installation and other hardware related support pertaining to application software engineering
- Requirements discovery, elicitation, evaluation, analysis, and synthesis
- Risk analysis and management
- Studies, research, surveys and reporting
- Technical support for the disabled (needs assessment, customization and implementation)
- Technology forecasting and transitioning strategy assistance
- Technology planning and upgrade
- Workflow design and implementation

Other Related IT Services - In keeping pace with technology improvements, the contractor will be required to identify emerging technologies and develop innovative solutions to keeping EPA applications modern. This vehicle is intended to provide a wide variety of application services and the contractor has the opportunity to offer the agency various services that allow continuous technology insertion as well as technology growth. The *Other Related IT Services* competency area covers all aspects of IT services including:

- Audit issues, response and tracking
- Business process re-engineering
- Providing subject matter experts
- Strategic and tactical planning

2. Technical SES^3 Competencies

The scope of work for this competency includes all aspects of software, security, application-related training, and quality assurance support services including:

- Application performance management
- Application security support
- Configuration management and tools support
- Data management support
- Data services
- Enterprise Architecture
- Geographic Information Systems (GIS) support
- IT architectural support

- Modeling, simulation, and prototyping
- Portfolio management
- Program and project management
- Project planning, tracking and reporting
- Requirements discovery, elicitation, analysis, development, and optimization
- Risk management, qualification, quantification, and risk response planning
- Scientific application, Visualization and Computational Science Support
- Software and Application Security Support
- Software engineering and integration support
- Software security certification and accreditation
- Statistical services
- System integration support
- System, software and database design, development, customization, maintenance, implementation and training
- Systems development, maintenance, and operation
- Testing, including independent validation and verification (IV&V)
- Training

The contractor shall be responsible for accomplishing the SOW as defined herein and further specified in individual Task Orders issued and amended by the CO under this BPA consistent with policies and procedures established and managed by the EPA.[4] The contractor shall implement, manage, provide and maintain IT services as described herein that are, on a continuing basis, responsive to EPA's users. The contractor shall maintain an awareness of the quality, efficiency, and cost-effectiveness of all services to be provided with a continuing emphasis on devising and developing better methods, processes, and procedures to enhance the ability of EPA to meet present and future needs of its user community.

Additionally, EPA has a requirement for automated information systems which address both fundamental information needs common to all Offices and Laboratories and those relating to program specific issues in order to support the IT needs of the widespread EPA locations in a cost-effective manner. The specific research areas of each EPA location require computer systems capable of providing a variety of analytical information, as well as raw data and information in support of the EPA mission.

Contractor Capabilities Maturity Model Integration (CMMI) Requirement: Within the past three years, the contractor must have earned a maturity level rating or capability level achievement profile that meets or exceeds Level 3 using a full benchmarking class of appraisal defined as a Class A appraisal. The appraisal of the contractor must conform to the requirements defined in the Appraisal Requirements for CMMI (ARC) document[5]. If subcontractors are used and not appraised to be at Level 3 as previously described, the prime contractors shall be responsible for ensuring their subcontractors follow the prime's CMMI Level 3 processes.

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[4] www.epa.gov/oam

[5] For more information on ARC refer to http://www.sei.cmu.edu/pub/documents/06.reports/pdf/06tr011.pdf and http://www.sei.cmu.edu/index.html

Documentation as proof of the CMMI appraisal must include a description of the appraisal options, model scope, and organizational scope selected to confirm to EPA that the appraisal meets the full benchmarking requirements.

The contractor shall demonstrate institutionalization of the CMMI model and must maintain its Level 3 (or higher) CMMI performance throughout the Order period of performance, and deliver to EPA at least every three years the results of an independent appraisal demonstrating continued performance across all process areas at Maturity Level 3, or higher, according to the aforementioned framework.

Description of Technical Competencies

A. **Data Management Support:** EPA's ability to share data among EPA offices and its partners is dependent upon quality data management services. The services within the scope of *Data Management Support* may include:
   - Creation, implementation, and maintenance of ORD, EPA, national, and international data standards
   - Development and maintenance of data models, taxonomies and dictionaries
   - Design and preparation of data coding schemes and maintenance of code sets
   - Design of quality assurance methods,
   - Metadata and content management, data mining, and evaluation of new data management technologies

B. **Data Services:** EPA and EPA support a variety of data requirements, from financial and administrative to vast quantities of GIS, modeling, and other scientific data. The scope of work for the Data Services principal competency covers all aspects of data support services including:
   - Data migration and conversion
   - Data modeling
   - Data subscription services
   - Data transfer
   - Data warehouse
   - Database administration
   - Database design
   - Database optimization
   - Search and search engine optimization, metadata, findability

C. **Enterprise Architecture:** EPA Enterprise Architecture is guided by the Federal Enterprise Architecture (FEA) reference models for its framework in the development of our architectures. The primary purpose is to ensure that business strategy and IT investments are aligned and to inform the Capital Planning and Investment Control (CPIC) process. The EA competency covers all aspects of data support services include:
   - Provide expertise to recommend and support enterprise technologies and solutions
   - Evaluate business processes to enable enterprise data management

- Provide skills in information/software systems architectures, reuse architectures, component-oriented software architectures, software engineering technologies and tools, and commercial development tools;

D. Geographic Information Systems (GIS) Support: EPA and EPA require GIS application development support, including assessment of current GIS components such as data, database structures, maps, map formats, etc. to use existing work wherever possible, as well as GIS development and customization to include, at a minimum, the following functions:
- Collection, quality assurance/quality control (QA/QC) of environmental sampling and analysis data
- Integration of data of various scales and projections; linking data to points or features on a map
- Overlaying maps and calculating mathematical relationships between/among maps

E. Independent Validation & Verification: EPA's requirements for these services include compliance with EPA and partner standards reviews, code reviews, generation of test data, execution of systems modules, and publication of test results.

F. Infrastructure / Application Integration Support: Analytical support is required to enable EPA to select the appropriate IT architecture for specific applications. The analysis may include:
- Telecommunications Protocols and Topology
- Hardware And Operating Systems
- Application Development Tools
- Alignment with EPA's and EPA's target applications and data architectures
- Systems management products.

G. Portfolio Management: Management of EPA's portfolio of systems consists of managing all systems inventory to identify redundancies among systems, applications, and databases. Data efficiencies may also be identified to reduce redundancies among systems and improve data integrity.
- Provide an established and comprehensive service delivery model for providing sustained application development support services
- Maintaining and supporting legacy application systems representing small, midsize, and large-scale enterprise systems.
- Provide highly conversant and skilled resources with managing a portfolio of legacy application systems and data management services.

H. Program Management: The Program Management function is responsible and accountable for the coordinated management of multiple related projects directed toward strategic business and organizational objectives. EPA's SES^3 programs contain complex activities that may span functions, organizations, geographic regions and cultures. The Vendor shall provide program managers who possess the knowledge and skills needed to be effective in both the project and EPA and Federal government environments, and to make decisions that accomplish strategic objectives. Program managers shall have advanced skills in finance, cross-cultural awareness, leadership, communication, influence, negotiation, and conflict

resolution as well as subject matter expertise. Program managers are responsible for all process areas as defined by the Project Management Institute (www.pmi.org).

I. **Project Management:** Management of SES[3] requires a demonstrated understanding of the knowledge and skills to lead and direct project teams to deliver results within the constraints of schedule, budget, and resources. Project managers ensure that all aspects of the project plan are executed and that progress and variances are properly addressed and communicated. Project managers are responsible for all process areas as defined by the Project Management Institute (www.pmi.org).

J. **Quality Control:** Quality controls are those measures taken that "sustain the quality of a product or service in order to satisfy given requirements." Work may include:
- Measure the quality of software design
- Analyze and measure quality of conformance to requirements and EA

K. **Software and Application Security Support:** Requirements for this service include the provision of a broad range of analytical services to assess the security of telecommunications networks, operating systems, COTS and customer developed systems [but excluding systems developed under this or other contracts by the chosen contractor(s) on other contracts]. The assessments shall evaluate compliance with Agency and partner policies and directives, and industry best practices.

L. **Scientific Application, Visualization and Computational Science Support:** Requirements for services under this task area include:
- Provide environmental modeling and application development, molecular modeling, computational modeling, and numerical algorithms and verification;
- Code optimizing, porting, tuning, and vectorizing;
- Troubleshooting;
- Parallel computing and cluster porting;
- Data mining and small- and large-scale statistical analysis;
- Information engineering and other scientific application support.
- Support for High Performance Computing (HPC) and visualization in EPA's National Environmental Scientific Computing Center (NESC2), including:
  - Services and expertise relating to scalable high performance computing and scientific visualization support
  - Monitoring HPC and visualization production equipment and non-production equipment (but not the day to day operations)
  - Creating and updating recommendations for EPA approved standard operating procedures that provide guidance for operating, maintaining, and reporting the status of major production and non-production high performance computing systems at the NESC2 and Scientific Visualization Center

M. **Software Configuration Management:** Software configuration management (SCM) is a "set of activities designed to control change by identifying the work products that are likely to change, establishing relationships among them. Work may include:

- Defining mechanisms for managing different versions of work products, controlling the changes imposed, and auditing and reporting on the changes made.

N. Software Engineering and Systems Services: The types of support services that fall within the Software Engineering and Systems Services competency area are those which are usually referred to as traditional IT support services.

- Software engineering and applications development shall consist of solving business challenges and problems, and identifying solutions derived from analysis of business and systems requirements and project planning. It encompasses all construction, testing, and implementation related tasks of new or enhanced applications and systems. The approach chosen shall be appropriate to the complexity, size, and duration of the project. COTS software and official EPA standards are favored over custom solutions.
- Systems development shall be conducted in accordance with the appropriate CMM requirements depending on the nature of the application. This includes full range of development activities including, at a minimum, requirements analysis, systems analysis/design, code development, integration of hardware and software (COTS modules), test data development, systems testing, system documentation, and system installation and operations instructions).

O. Software Maintenance: Requirements in this competency area include enhancing and optimizing deployed software (software release), as well as remediation of defects and deficiencies in the software following deployment. Requirements may also include the addition of new functionality to improve the software's usability and applicability. Administration and support may include:

- Recoverability—creating and testing backups
- Integrity—verifying or helping to verify data integrity
- Security—defining an/or implementing access controls to the data
- Availability—ensuring maximum uptime
- Performance—Ensuring maximum performance give budgetary constraints
- Support and testing—helping programmers and engineers to efficiently utilize the database

P. Statistical Services: Requirements in this principle task include:

- Develop surveys, samples, and questionnaires and related documentation.
- Provide technical services using mathematical, statistical, and IRM-related skills to review requirements for data reduction and analysis, to apply statistical methods and standard software packages in the preparation of statistical reports, and for to develop and automate statistical and mathematical models and algorithms.

Q. Software Process Improvement: EPA is committed to continually improving its software development and management processes. The scope of work for the Software Process Improvement competency area includes all aspects of software process improvement services may include:

- Configuration management
- Performance management
- Process standardization
- Program management

- Release Management

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R. Training Plan: This task area shall include:
- Prepare, provide and evaluate training associated with the systems engineering efforts and applications
- Plan courses and seminars and arrange conferences
- Prepare draft and final training materials and products
- Preparing and disseminate training schedules
- Obtain required training supplies and provide all necessary training related equipment and services at the customer designated training site

TIME AND DELIVERY OF SERVICE

The contractor may be required to provide long-term, on-site IT support staff in any of EPA's facilities, including EPA Offices, Laboratories, Research Centers and Field Installation Offices. If SES^3 onsite support is required by an EPA location on a long-term basis, the contractor shall be provided forty-five (45) days advance notice before the support must begin. Startup intervals in such cases will be subject to individual negotiations.

In general, services shall be routinely provided on all Federal business days from 7:00 a.m. to 6:00 p.m. local time where the services are being performed or as otherwise specified in individual Task Orders. The contractor may be required to provide services outside of these hours on an emergency or extended basis. In the event of an environmental emergency or operational crisis, the Agency may require extended contractor support. Response times will vary with each situation, some requiring contractor response within four (4) hours. Subsequent to the initial notification, the CO will amend the appropriate Task Order(s) as required.

Systems Development Center(s)
Since the Order is intended to serve the needs of EPA and its partners, work may potentially be performed at various locations throughout the United States. To meet customer requirements for efficient systems engineering and to promote good communications among the parties, the SES^3 contractor may propose systems development activities at its own facility, at other commercial facilities in the Washington DC area, or at other commercial locations within the United States.

3. Business Services Competencies

The Vendor shall provide support for ancillary use-oriented business services that require either specific technical expertise or access to specialized technologies. The categories for these requirements include:
A. Graphical Design
B. Printing and Publication
C. Multimedia Authoring, Editing, and Production
D. Video and Photography Production
E. Image Scanning
F. Report Development

G. Data Entry
H. Technical Writing, Editing, and Documentation
I. Technology Transfer and Assessment
J. Content Management
K. Technical Training
L. Technical Reference Center Services

Description of Business Services Competencies

A. **Graphical Design:** The contractor shall develop graphical elements to increase the visual appeal of publications or increase the understanding of publication messages including but not limited to:
- Managing requests for graphics support
- Developing or refining graphic templates for broad use
- Creating graphics and applying formatting, styles, and graphics such as images or illustrations to documents, presentations, brochures, posters, or other publications
- Editing and refining graphics for use in various publications

B. **Printing and Publication:** The contractor shall provide physical production of publications including but not limited to:
- Managing requests for printing or binding services
- Printing and binding of documents, presentations, brochures, posters, or other publications
- Distribution or delivery of printed materials

C. **Multimedia Authoring, Editing, & Production:** The contractor shall provide services to develop, edit and produce multimedia presentations including but not limited to:
- Developing and editing presentations with varying content types including printed and electronically published documents, audio, video, and animations
- Developing or editing interactive applications with menus and varying content types including text, audio, video and animations
- Compiling and organizing documents for alternative media distribution (i.e. CDs or DVDs)

D. **Video and Photography Production:** The contractor shall provide support for digital video and photography formats including but not limited to:
- Creating photographs and videos by photographers and videographers
- Transferring or converting video from one format to another (i.e. Photographs to digital format, etc.)
- Editing video and image files

E. **Image Scanning:** The contractor shall scan hardcopy and softcopy documents and images for digital use including but not limited to:
- Scanning hardcopy and softcopy documents or images for conversion to electronic format
- Indexing or assigning metadata or keywords to scanned documents, digital document or images
- Forwarding digital files or load into document and content management systems and databases

F. **Report Development:** The contractor shall create and maintain reports to be used internally to EPA and EPA for business management purposes, including but not limited to:
- Retrieving data from systems or other sources, compile data, and update data for reporting purposes
- Developing and maintaining report templates
- Grouping and summarizing data or information into reports
- Maintaining report distribution lists
- Distributing reports to appropriate audience

G. **Data Entry:** The contractor shall provide manual entry of general, scientific, and technical data and maintenance of data in systems, databases, and spreadsheets.

H. **Technical Writing, Editing, and Documentation:** The contractor shall provide general, scientific, and technical writing, editing and documentation services including but not limited to:
- Documenting scientific processes and their outcomes
- Editing technical or scientific content of all kinds, including presentations, documents, and web content

I. **Technology Transfer & Assessment:** The contractor shall distribute information, tools, and technology within EPA including but not limited to:
- Developing and identifying appropriate methods and mechanisms for the distribution of Agency-created information, tools, and technology
- Implementing methods and mechanisms for the distribution of Agency-created tools, information, and technology

J. **Content Management:** The contractor shall arrange, add and maintain content in web, file, or document management systems including but not limited to:
- Managing the organization and structure of content on static web pages, file systems, or other systems such as document management systems
- Developing and maintaining taxonomies and metadata for content
- Managing and updating content on web sites, file systems, or in other systems such as document management systems

K. **Technical Reference Center Services:** The contractor shall operate Technical Reference Center(s) and provide services to support EPA's libraries. Operation of a TRC may also include reference retrieval, literature searching, maintenance of reference center records management systems including project and docket files, and inventory and distribution of documents. Additional services may include but are not limited to:
- Provision of TRC Support Staff & Facilities Support
- Support of inventory, print materials and non-print materials
- Communications, outreach and special reports
- Inter-Library Loan Services
- Discovery, implementation, and use of new technology in the TRC(s)

COMPLIANCE WITH INFORMATION TECHNOLOGY GUIDELINES

All contractor work must comply with pertinent Federal and EPA information processing and telecommunications standard and procedural guidelines. The contractor shall also comply with the Federal Information Processing and Standards (FIPS), published by the National Institute for Standards and Technology (NIST). The contractor shall also comply with EPA's IT Architecture Roadmap and related implementation decisions, and EPA technical and operational standards as issued by its technology services organizations. The contractor shall observe the policies, procedures and formats published at www.epa.gov/irmpoli8 - *IM & IT Policies That Affect Contractors Performing Work through EPA Issued Contracts.*

DELIVERABLES

All deliverables shall be provided in electronic format conforming to EPA standards. Some deliverables may need to be provided in multiple electronic format types for import or integration into EPA financial databases and project management systems or for reporting purposes and use in management dashboard web applications.

SECURITY REQUIREMENTS FOR CONTRACTOR AND SUBCONTRACTOR EMPLOYEES

Security Clearance

Contractor personnel may have access to information requiring security clearances. Task Orders will include instructions on the handling of such information and may include contractor certifications as to the protection of such information, as described at Clause H.27.

Risk Level Designation

The following risk level has been assigned to this Order: HIGH. (However, individual Task Orders may be assigned a lower risk level designation.) The post-award background investigations and fingerprinting required for all contractor employees (and subcontractor employees, if applicable) will be for the risk level assigned to the Task Order.

Confidentiality Agreement

In the event that confidential or sensitive information may be given to or obtained by the Vendors in connection with or in the process of this solicitation, each Vendor and Vendor's personnel may be required to execute a confidentiality agreement. It will be incumbent upon each Vendor to ensure that any and all confidential information it receives by whatever means is kept confidential and is not released to any person or entity that is not required to have such information as a part of the preparation of a quote in response to this SOW.

Protection of EPA Data

The EPA's environmental databases, applications, and systems are a primary resource of the United States and appropriate protection of their integrity, confidentiality, and availability is an absolute necessity. The contractor shall ensure that all software and systems engineering work performed under this Order does not compromise the security of these systems or data contained

therein, and shall execute a security program that protects their integrity, confidentiality, and availability consistent with EPA security policy. Any security breach shall be identified, closed, and reported in accordance with established EPA policies and procedures at the earliest possible time. Protection of EPA data must be fully evaluated in any proposed systems engineering effort and final approval of changes that relate to data protection will be made by the appropriate EPA official. The SES[3] contractor staff must be fully aware of and liable for unauthorized access by their staff. The contractor shall defend against this type of unauthorized access through policy and technical means, including appropriate background checks to help ensure trustworthiness of contractor employees.

Conformance to EPA Standards and EPA and Federal Policy

The contractor shall abide by all EPA regulations, policies, and procedures in effect during the Order period of performance. This includes all changes in laws, regulations, policies, and procedures as they evolve during the Order period of performance. The contractor shall conform to EPA's Enterprise Architecture and all EPA governing documents associated with the EPA IT infrastructure, including the EPA and NCC Application Deployment Checklist[6] and the System Lifecycle Management Policy (http://www.epa.gov/irmpoli8/policies.htm) process.

At a minimum, the contractor shall conform to and abide by the following:

[6] http://cfint.rtpnc.epa.gov/otop/resources/adc/ApplicationDeploymentChecklist.cfm

Federal Policies and Regulations

Electronic Signatures in Global and National Commerce Act (ESIGN)	http://www.whitehouse.gov/omb/memoranda/m00-15.html
Federal Information Processing Standards	http://www.itl.nist.gov/fipspubs/
Government Information Security Reform Act	http://www.whitehouse.gov/omb/memoranda/m01-08.pdf
Government Paperwork Elimination Act (GPEA)	http://www.whitehouse.gov/omb/circulars/a130/a130.html
Information Technology Management Reform Act	http://www.whitehouse.gov/omb/memoranda/m96-20.html
OMB Circular A119	http://www.whitehouse.gov/omb/circulars/a119/a119.html
OMB Circular A130	http://www.whitehouse.gov/omb/circulars/a130/a130.html
OMB Memorandum on Agency Architecture Development	http://www.whitehouse.gov/omb/memoranda/m97-16.html
PDD-63 White Paper	http://fas.org/irp/offdocs/paper598.htm
Presidential Decision Directive - PDD-62	http://fas.org/irp/offdocs/pdd-62.htm
Presidential Decision Directive - PDD-67	http://fas.org/irp/offdocs/pdd/pdd-67.htm
FIPS Publications	http://csrc.nist.gov/publications/PubsFIPS.html
Records management guidance for agencies implementing electronic signature technologies	http://www.nara.gov/records/policy/gpea.html
Section 508 Compliance	http://www.accessboard.gov/sec508/508standards.htm
EPA Policy and Procedures	
Agency Network Security Policy Order Number 2195.1A4	Attachment 3-A (pp. 1 – 25)
Computer Security Incident Response - Directive 200.06 (includes ISO Handbook)	Attachment 3-A (pp. 26 – 31; 32 – 86)
EPA Data Standards	http://oaspub.epa.gov/edr/epastd$.startup
Information Management & Information Technology Policies that apply to Contractors performing work through an EPA issued Contract	http://www.epa.gov/irmpoli8/
EPA Web Guide	http://www.epa.gov/webguide/index.html
Information Technology Roadmap	Attachment 3-A (pp. 87 – 119)
IRM Policy Manual	http://www.epa.gov/irmpoli8/archived/polman/index.html
Web Site Management: Developmental Web Sites Order 2190.6	Attachment 3-A (pp. 117 – 119)